

<b>Extramural Costs:</b>	<b>Current Ceiling</b>	<b>Ceiling Increase Amount</b>	<b>Proposed Ceiling</b>
Regional Allowance Costs:(Total cleanup contractor costs include labor, equipment, materials and laboratory disposal analysis) includes 20% contingency	\$6,188,462		\$6,188,462
Other Extramural Costs not Funded From the Regional Allowance: Technical support (RST2)	\$323,093		\$323,093
Subtotal, extramural costs	\$6,511,555	\$0	\$6,511,555
Extramural Costs Contingency	\$40,000		\$40,000
<b>Total Removal Project Ceiling</b>	\$6,551,555	\$0	\$6,551,555

<b>Cost Type</b>	<b>Total Funding Requested in this Memorandum and Previous Memoranda</b>
Direct Extramural Cost	\$6,551,555
Direct Intramural Cost	\$1,048,249
Subtotal, Direct Cost	\$7,599,804
Indirect Costs (Regional Indirect Cost Rate 38.54%)	\$2,928,964
Estimated EPA Costs Eligible for Cost Recovery	\$10,528,768

**ERRS****40 weeks-6 days per week****Total Cost =****\$ 2,888,462.08**

Description	ST	OT	quantity	ST Hours
RM	\$ 79.67	\$ 57.51	1	40
Foreman	\$ 53.10	\$ 52.62	1	40
FCA	\$ 39.30	\$ 45.57	1	40
Laborer (SCA)	\$ 37.00	\$ 41.00	2	40
IH/Safety	\$ 59.85	\$ 43.20	1	10
Chemist	\$ 45.64	\$ 45.64	0	0
T&D	\$ 54.58	\$ 39.40	1	40
Equip. Operator (SCA)	\$ 57.91	\$ 63.97	3	40
Truck Driver (SCA)	\$ 47.93	\$ 52.94	0	0

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**Total Labor Cost**

<i>Clin Items</i>	<i>Daily rate</i>	<i>days per wk. work</i>	<i>Quantity</i>	<i>#WEEKS</i>
Car passenger	\$ 20.00	0	1	0
Truck-Pick Up 1/2 ton	\$ 30.00	6	1	40
Truck-Pickup 4 wheel 3/4 ton	\$ 30.00	6	3	40
Van Passenger	\$ 45.00	0	1	0
SUV 4 WD	\$ 45.00	6	1	40
Trailer ER Haz Mat-<18 ft.	\$ 40.00	0	1	0
Trailer cargo <10 ft.	\$ 40.00	6	1	40
Truck stakebed /Flat bed	\$ 55.00	0	1	0
Skid Steer Loader 6k<8K	\$ 125.00	6	1	12
Safety meter-Combo FID/PID	\$ 1.00	0	1	0
Radio-handheld	\$ 1.00	6	8	40
Generator 5kw <10 kw	\$ 35.00	0	1	0
Generator 10 kw<15kw	\$ 65.00	0	1	0
Press Washer	\$ 30.00	6	1	8
1.5 " submersible pump	\$ 25.00	5	1	0
2" trash pump	\$ 8.50	6	1	40

**Total Clin Cost**

<i>OFC Description</i>		<i>Cost</i>	<i>G&amp;A 5.5%</i>
Backfill	17,550 tons/24.00	\$ 421,200.00	\$ 23,166.00
Excavator-(2)	8000./6 months	\$ 96,000.00	\$ 5,280.00
Loader	4500/6 months	\$ 27,000.00	\$ 1,485.00
Mini Ex-(2)- inside/concrete	3000./3 months	\$ 18,000.00	\$ 990.00
Site Trailers (2)	600./ 10 months	\$ 12,000.00	\$ 660.00
Lodging	83.00/ 2240man day	\$ 185,920.00	\$ 10,225.60
Perdiem	51./ 2240 Man day	\$ 114,240.00	\$ 6,283.20
porta johns		\$ 3,000.00	\$ 165.00
8" depth wet Concrete Saw	2 months	\$ 4,000.00	\$ 220.00
Asphalt Restore/170k sq ft	Lump Sum est.	\$ 509,976.00	\$ 28,048.68
Concrete Restore/ buildings	Lump Sum est.	\$ 40,000.00	\$ 2,200.00

[illegible]

ST Total	OT Hours	OT Total	#weeks	\$ Totals
\$ 3,186.80	20	\$ 1,150.20	40	\$ 173,480.00
\$ 2,124.00	20	\$ 1,052.40	40	\$ 127,056.00
\$ 1,572.00	20	\$ 911.40	40	\$ 99,336.00
\$ 2,960.00	20	\$ 1,640.00	40	\$ 184,000.00
\$ 598.50	0	\$ -	4	\$ 2,394.00
\$ -	0	\$ -	0	\$ -
\$ 2,183.20	0	\$ -	8	\$ 17,465.60
\$ 6,949.20	20	\$ 3,838.20	40	\$ 431,496.00
\$ -	0	\$ -	0	\$ -

\$ -	\$ -	0	\$ -
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**\$ 1,035,227.60**

***Total***

\$ -  
\$ 7,200.00  
\$ 21,600.00  
\$ -  
\$ 10,800.00  
\$ -  
\$ 9,600.00  
\$ -  
\$ 9,000.00  
\$ -  
\$ 1,920.00  
\$ -  
\$ -  
\$ 1,440.00  
\$ -  
\$ 2,040.00  
**\$ 63,600.00**

***Total OFC Cost***

\$ 444,366.00  
\$ 101,280.00  
\$ 28,485.00  
\$ 18,990.00  
\$ 12,660.00  
\$ 196,145.60  
\$ 120,523.20  
\$ 3,165.00  
\$ 4,220.00  
\$ 538,024.68  
\$ 42,200.00

Sq YD  
18,888  
5000 sq ft?

Per SQ YD  
27

per sq ft. 8.00

[illegible]

4.48  
9.00  
7.60  
2.08





**T&D**

Total Cost =

\$3,300,000
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From our research, there are 4 primary radioactive waste disposal sites for bulk material. They are located in Texas, Colorado, U Due to mergers and acquisitions over the past few years, the industry has become vertically integrated whereby the companies th Two of the disposal were contacted and provided a cost estimates for T&D based upon the following information:

- The projected volume of radioactive waste is estimated to be 13,000 Cubic Yards (CY) for FY2016. Note for purp
- The waste material is primarily soil but may contain some building rubble. We did not ask any questions about all
- The waste is contaminated only with radionuclides. No hazardous constituents were identified. If the waste is foun
- The maximum concentration detected in the characterization samples were Th-232 at 15 pCi/g, Ra-226 at 15 pCi/g
- Due to these low concentrations, the waste is exempt from regulations regarding the shipment of DOT class 7 radi

**The cost estimates received were from Energy Solutions and US Ecology.**

1. **Energy Solutions** operates the radioactive disposal site in Utah, and probably has the broadest license to receive h and have had substantial disposal contracts with DOE, EPA, and many industrial clients. By acquisition a fe The person we spoke with was Scott Dempsey of MHF (724-312-6244). Scott confirmed that while they ar the cost to package, transport, and dispose of the material in Energy Solutions facility in Clive Utah at \$450 "lift liners", also called "super sacks", loaded onto flatbeds, and trucked to one of their rail trans loading fac the budgetary estimate is then **\$5.9 million to \$6.5 million.**
2. **US Ecology** operates the disposal site in Idaho, plus a few months ago they acquired the aforementioned subtitle C Idaho disposal site for bulk radioactive waste material has been open for about 10 years. The person we spo from Niagara Falls to their disposal site near Belleville, MI. He estimated the T&D cost to be \$200 to \$250 p

**Note:** Internet search results found that the state of Michigan may be reviewing their permit for radioactive contaminants. While



tah, and Idaho. There also exists a subtitle C landfill in Michigan that can accept limited concentrations of TENORM. at own the disposal sites can also offer transportation services.

oses of this estimate, a CY of waste is approximately equivalent to 1 ton, so the units are interchangeable.  
owable soil moisture content but should be considered when preparing the bid document.  
d to be also hazardous, ie "mixed waste", these cost estimates are probably not accurate.  
, and U-238 at 4 pCi/g, plus associated daughter products from each of these isotopes.  
oactive materials.

**igher concentrations of more radionuclides. They have been in business for about 25 years under various names,**  
w years ago they acquired MHF Logistical Solutions which Weston has used in the past for transportation assistance.  
e a subsidiary of Energy Solutions, they can provide transportation support to other disposal providers. Scott estimated  
to \$500 per CY, with the transportation and disposal costs about equal. Scott recommended that the soil be packaged in  
ilities, where they would be loaded into gondolas and rail shipped to the Clive disposal site. Assuming 13,000 CY of material,

**disposal site in Michigan. US Ecology has been in business for at least 40 years under various names, but the**  
ke with was Tim Curtin (908-419-6685). Based on the concentrations given, Tim recommended that the waste be trucked direct  
er CY. Assuming 13,000 CY of waste, the budgetary estimate is **\$2.6 million to \$3.3 million.**

**Tim confirmed their ability to receive this waste at this time, I wonder if this option may be unavailable by the time the p**

ly

**roject needs disposal support.**

Weston

Total Cost = **\$323,093**

Cost estimate for RST 3 to provide Removal Action support at the Niagara Falls Boulevard Site. The cost estimate provided is o  
ravel expenses, approximate expendables, analysis, and data validation.

Labor:

40 weeks at 50 hours a week (assumption) = 2,000 hours

2,000 hours at a labor rate of \$110.00 per hour = **\$220,000 (Total Estimated Labor Cost)**

Lodging and Per Diem (based on the cost incurred during the assessment mobilization and assuming that it would be 7 days a w  
no mobilization back. 40 weeks at 7 days per week = 280 days):

Lodging Daily Rate = \$190.97 (includes taxes)

Daily rate of \$190.97 for 280 days = **\$53,471.60 (Total Lodging Cost)**

Daily Per Diem = \$51.00

Daily per diem of \$51.00 for 280 days = **\$14,280 (Total Per Diem Cost)**

Vehicle Fuel:

\$75.00 per week (assumption) for 40 weeks = **\$3,000 (Total Fuel Cost)**

Field Expendables (assumption) = **\$10,000 (Total Expendables Cost)**

Analytical (based on the same number of samples collected during the assessment being analyzed for the same parameters) = **\$1**

Data Validation Cost (based on the assessment data validation cost) = **\$8,250.00 (Total Data Validation Cost)**

**Total Cost = \$323,093**

Please let me know if you have any questions in regards to this cost estimate or if you would like to see anything else added to t

Thanks,

Tim

nly based on labor, t

eeek with

4,091.40 (Total Analytical Cost)

he calculated estimate.